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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,696	12/21/2001	Hiroshi Nemoto	WATK:162A	4428

7590 04/23/2004

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EXAMINER

CREPEAU, JONATHAN

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,696

Applicant(s)

NEMOTO ET AL.

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/114,323.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/21/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 42 and 43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 42 recites the limitation "said at least one sheet of a metal foil is an electrode plate for a negative electrode." However, the instant specification does not provide sufficient disclosure or guidance for an artisan to ascertain that either of the disclosed foils 70, 26 function as a current-carrying member (i.e., an "electrode plate") that is electrically connected to the negative electrode. As described throughout the specification, both of the disclosed foils are surrounded by electrically insulating sealing materials. Further, in Figure 1, electricity is conducted through member 77 rather than through foil 70. Therefore, it is unclear how the metal foils are capable of functioning as "electrode plates" for the negative electrodes.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 2, 3, 6, 8, 10, 14, 18, 22, 26, 32, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The instant claims all depend from claim 1, which has been canceled. As such, these claims are indefinite. It appears that Applicants intended to cancel claims 1-39; however only claim 1 was actually canceled.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 40 is rejected under 35 U.S.C. 102(b) as being anticipated by Toyosawa et al (U.S. Pat. 4,939,050). The reference teaches a lithium secondary battery comprising a cylindrical case in Example 13. The battery further comprises an electrode body and organic electrolyte. As shown in Figs. 11 and 12, a pressure release mechanism (51) is disposed on an end portion of the battery case. The pressure release mechanism is a metal foil which bursts to release the inside pressure (see col. 25, line 30, and col. 26, line 21).

Thus, the instant claim is anticipated.

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7. Claims 40, 41, 42, 44, and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Teramoto (U.S. Patent 5,571,632). Regarding claim 40, Teramoto teaches a nonaqueous lithium secondary battery comprising a cylindrical case and a spiral electrode body in the abstract. The anode (i.e., positive electrode) comprises lithium cobalt oxide, and the cathode (i.e., negative electrode) comprises a carbonaceous material (see col. 3, lines 41-62). In Figures 7 and 8, and in column 11, line 66-column 12, line 39, the reference teaches that pressure release mechanisms may be disposed at both ends of the cylindrical battery. Regarding claims 40 and 41, these mechanisms comprise openings (22) having a sheet of polypropylene-coated aluminum (23) thereon acting as a blowout valve in the event of excessive pressure. Regarding claim 42, both ends of the battery comprise aluminum plates (15). Regarding claim 44, the reference discloses that the operational pressure varies according to the shape of the openings, but in one example, is about 5 to 10 kgf/cm². Regarding claim 47, the capacity of the battery is 25 Ah, as taught in column 9, line 27.

Thus, the instant claims are anticipated.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teramoto.

The reference is applied to claims 40, 41, 42, 44, and 47 for the reasons set forth above. However, the reference does not expressly teach that the difference in operational pressures between the two mechanisms is less than 8 kg/cm^2 , as recited in claim 45.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use a difference in operational pressures of about zero, since such a small difference would ensure a constant blowout pressure for the battery as a whole and thereby provide for reliable operation. As such, a difference in operational pressures of about zero would be obvious to a person of ordinary skill in the art.

10. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teramoto as applied to claims 40, 41, 42, 44, and 47 above, and further in view of EP 0 266 541 (Urushiwara et al).

Teramoto does not expressly teach that grooves are formed in the metal foil (plate).

In Figure 19, Urushiwara et al. teach a groove portion disposed in a metal plate for acting as a pressure-release mechanism.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because Urushiwara et al. provide motivation to use grooves in the foil of Teramoto. Throughout the disclosure, Urushiwara et al. teach that their

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battery possesses high safety by assuring explosion-proof operation. Therefore, the artisan would be motivated to incorporate the grooves on the foil of Teramoto in hopes of more precisely controlling the nature and strength of a pressured discharge.

11. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teramoto as applied to claims 40, 41, 42, 44, and 47 above, and further in view of Wakabe et al (U.S. Patent 6,136,464).

Teramoto does not expressly teach that one of the plates comprises nickel or copper, as recited in claim 43.

Wakabe et al is directed to a battery and safety device therefor. In column 10, line 40, the reference teaches a terminal plate made of a nickel-plated stainless steel or ferrous alloy.

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use a nickel-plated stainless steel or ferrous alloy in at least one of the plates of Teramoto. In column 10, line 42, Wakabe et al. teach that by virtue of using these materials, "the lead formed of nickel plate is easily connected by the spot welding." As such, the artisan would be motivated to use a nickel-plated stainless steel or ferrous alloy in one of the plates of Teramoto. Furthermore, the selection of a known material based on its suitability for its intended use has generally been held to be *prima facie* obvious (MPEP §2144.07). As such, it would be obvious to use the materials disclosed by Wakabe et al. in the terminal plate(s) of Teramoto.

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Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 2-47 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 6,344,292. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are anticipated by the '292 patent claims. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993).

Conclusion

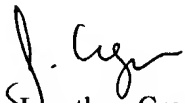
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached at (571) 272-1302. The phone number for the

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organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Patent Examiner
Art Unit 1746
April 16, 2004